

Attorney's Docket No. 1034381-000012

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

~~TRADE~~ The Patent Application of

David Jaramillo et al.

**Application No.: 10/574,995**

Filed: April 6, 2006

**For: SEQUENCE SELECTIVE PYRROLE  
AND IMIDAZOLE POLYAMIDE  
METALLOCOMPLEXES**

## MAIL STOP IDS

**Group Art Unit:**

**Examiner:**

**Confirmation No.:**

## Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service on May 12, 2006 as first class mail, in an envelope addressed to: Mail Stop IDS, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By:

Kim A. Cabello

## FIRST INFORMATION DISCLOSURE STATEMENT

## MAIL STOP IDS

**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

**Sir:**

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, the accompanying information is being submitted in accordance with 37 C.F.R. §§ 1.97 and 1.98.

Pursuant to 37 C.F.R. § 1.98, a copy of each of the documents cited is enclosed. However, copies of the listed U.S. patents and U.S. patent application publications are not enclosed since it is no longer required according to the July 11, 2003 waiver of the requirement for copies of cited U.S. patents and U.S. patent application publications in national patent applications filed after June 30, 2003 and international applications entering the national stage under 35 U.S.C. § 371 after June 30, 2003.

The documents are being submitted within three (3) months of the filing or entry of the national stage of this application or before the first Office Action on the merits, whichever is later. Since these documents are being filed within the time period set forth in 37 C.F.R. § 1.97(b), no fee or statement is required.

To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL PC

Date May 12, 2006

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By: 

Joseph R. Baker, Jr.  
Registration No. 40,900



Patent  
Attorney Docket No. 1034381-000012

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

David Jaramillo et al.

Application No.: 10/574,995

Filing Date: April 6, 2006

Title: SEQUENCE SELECTIVE PYRROLE AND IMIDAZOLE POLYAMIDE METALLOCOMPLEXES

Group Art Unit:

Examiner:

Confirmation No.:

FIRST  
INFORMATION DISCLOSURE STATEMENT  
TRANSMITTAL LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

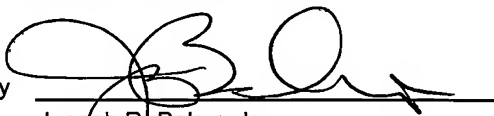
Enclosed is a First Information Disclosure Statement and accompanying form PTO-1449 for the above-identified patent application.

- ☒ No additional fee for submission of an IDS is required.
- ☐ The fee of \_\_\_\_\_ as set forth in 37 C.F.R. § 1.17(p) is also enclosed.
- ☐ A statement under 37 C.F.R. § 1.97(e) is also enclosed.
- ☐ A statement under 37 C.F.R. § 1.97(e), and the fee of \_\_\_\_\_ as set forth in 37 C.F.R. § 1.17(p) are also enclosed.
- ☐ Charge \_\_\_\_\_ to Deposit Account No. 02-4800 for the fee due.
- ☐ A check in the amount of \_\_\_\_\_ is enclosed for the fee due.
- ☐ Charge \_\_\_\_\_ to credit card. Form PTO-2038 is attached.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BUCHANAN INGERSOLL PC

By 

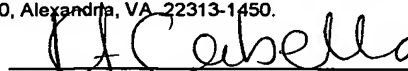
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Date of Deposit: May 12, 2006



Kim A. Cabello  
Typed Name:

**Buchanan Ingersoll PC**  
ATTORNEYS

Including attorneys from Burns Doane Swecker & Mathis

(8/05)

# **FIRST INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of

**Complete if Known**

Application Number	10/574,995
Filing Date	April 6, 2006
First Named Inventor	David Jaramillo et al.
Examiner Name	
Attorney Docket Number	1034381-000012

**U.S. PATENT DOCUMENTS**

Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
	4,942,227		Dervan	06/17/1990

**FOREIGN PATENT DOCUMENTS**

Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)	STATUS						
					Translation	Partial Translation	Eng. Lang. Summary	Search Report	IPER	Abstract	Cited in Spec
	WO 98/49142	A1	WIPO	11/05/1999				X			
	WO 03/041128	A2	WIPO	05/15/2003				X			
	WO 99/62551	A1	WIPO	12/09/1999				X			
	WO 03/020877	A2	WIPO	08/15/2002				X			

**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	BARALDI, Pier Giovanni; et al. "Design, Synthesis and in vitro Cytotoxicity of a cis-Dichloplatinum (II) Complex Linked to the Minor Groove Binder Stallimycin" (2003) Drug Res. 53, No. 2, 107-113
	BELITSKY, Jason M. et al., "Cellular Uptake of N-Methylpyrrole/N-Methylimidazole Polyamide-Dye Conjugates, Bioorganic & Medicinal Chemistry 10 (2002) 3313-3318
	PITIE, Marguerite, et al. "Mechanisms of DNA Cleavage by Copper Complexes of 3-Clip-Phen and of its Conjugate with a Distamycin Analogue" Nucleic Acids Research, 2000, Vol. 28, No. 24. 4856 - 4864
	LOSKOTOVA, Hana and Viktor Brabek, "DNA interactions of cisplatin tethered to the DNA minor groove binder distamycin" Eur. J. Biochem (1999) 266, 392-402
	SWALLEY, Suzanne E. et al., Effects of $\gamma$ -Turn and $\beta$ -Tail Amino Acids on Sequence Specific Recognition of DNA by Hairpin Polyamides" J. of the American Chemical Society (1999) Vol. 121, No. 6, 1113-1120
	LEE, Moses et al., "Novel Platinum (II) Derivatives of Analogues of Netropsin and Distamycin Synthesis, DNA Binding and Cytotoxic Properties" Med. Chem. Res. (1996) 365-371
	SIGURDSSON, Snorri Th. And Paul B. Hopkins "Synthesis and Reactions with DNA of a Family of DNA-DNA Affinity Cross-Linking Agents" (1994) Tetrahedron, Vol. 50, No. 42 12065-12084
	HUANG, Liren et al., "Design of DNA-Cleaving Molecules Which Incorporate a Simplified Metal-Complexing Moiety of Bleomycin and Lexitropsin Carriers" Bioorganic & Medicinal Chemistry Letters, Vo. 3, No. 8, 1751-1756

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU2004/001368

## A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. <sup>7</sup>: C07D 207/34, 209/56, 233/90; A61K 31/4164, 31/40; A61P 35/00, 31/18, 31/12

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
STN CAS-Online: substructure search

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1998/049142 A1 (CARLIFORNIA INSTITUTE OF TECHNOLOGY) 5 November 1998 See whole document	13, 17-20
X	WO 2003/041128 A2 (PHARMACIA CORPORATION) 15 May 2003 See whole document	13, 17-20
X	US 4942227 (DERVAN et al) 17 July 1990 See whole document, especially, columns 87-90	13
X	WO 1999/062551 A1 (BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM) 9 December 1999 See whole document, especially pages 31-34	13, 17-20

☒ Further documents are listed in the continuation of Box C

☒ See patent family annex

* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
3 December 2004

Date of mailing of the international search report  
14 DEC 2004

Name and mailing address of the ISA/AU  
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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001368

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2003/020877 A2 (PHARMACIA CORPORATON) 13 March 2003 See whole document, especially Example XVII, pages 12, 90, 91	13
X	BARALDI P G et al, "Design, synthesis and in vitro cytotoxicity of a cis-dichloroplatinum (II) complex linked to the minor groove binder stallimycin" Arzneimittel-Forschung (2003), 53(2), 107-113 See abstract, structural formulae at page 108, Scheme 1 (compounds 10,11)	13
X	Belitsky, Jason M et al, "Cellular uptake of N-methylpyrrole/N-methylimidazole polyamide-dye conjugates" Bioorganic & Medicinal Chemistry (2002), 10(10), 3313-3318 See Figure 1	13, 17-20
X	Pitie, Marguerite et al, "Mechanisms of DNA cleavage by copper complexes of 3-Clip-Phen and of its conjugate with a distamycin analogue" Nucleic Acids Research (2000), 28(24), 4856-4864 Copper complex of conjugates 1, 2 and 3 in Figure 1	13
X	Loskotova, Hana et al, "DNA interactions of cisplatin tethered to the DNA minor groove binder distamycin" European Journal of Biochemistry (1999), 266(2), 392-402 See Figure 1	13
X	Swalley, Susanne et al., "Effects of .gamma.-Turn and .beta.-Tail Amino Acids on Sequence-Specific Recognition of DNA by Hairpin Polyamides" Journal of the American Chemical Society (1999), 121(6), 1113-1120 See Figure 2	13
X	Lee, Moses et al, "Novel platinum(II) derivatives of analogs of netropsin and distamycin: synthesis, DNA binding and cytotoxic properties" Medicinal Chemistry Research (1996), 6(6), 365-371 See abstract and Figure 2	13, 17-20
X	Sugurdsson, Snorri Th. et al, "Synthesis and reactions with DNA of a family of DNA-DNA affinity crosslinking agents" Tetrahedron (1994), 50(42), 12065-84 See scheme 1, compounds 1-3 cross linked to distamycin	13
X	Huang, Liren et al, "Design of DNA-cleaving molecules which incorporate a simplified metal-complexing moiety of bleomycin and lexitropsin carriers" Bioorganic & Medicinal Chemistry Letters (1993), 3(8), 1751-6 See scheme 4, Fe(II)-hybrid complexes	13
X	Youngquist, R. Scott et al, "A synthetic peptide binds 16 base pairs of A,T double helical DNA" Journal of the American Chemical Society (1987), 109(24), 7564-6 See Figure 2	13

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001368

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
WO 1998049142		AU 25268/97	AU 37347/97	AU 41450/97	
		AU 61517/98	AU 61588/98	AU 62552/98	
		AU 64334/98	AU 64341/98	AU 67576/98	
		AU 71040/98	CA 2247889	CA 2279959	
		CA 2280806	CA 2281843	CA 2281930	
		CA 2281947	CA 2281948	CA 2286232	
		CA 2288806	CA 2299455	CN 1260006	
		EP 0885189	EP 0958508	EP 0964703	
		EP 0968186	EP 0973740	EP 0973798	
		EP 0986539	EP 0991417	EP 1007729	
		EP 1023288	US 5998140	US 6087663	
		US 6090947	US 6143901	US 6303312	
		US 6472537	US 6506906	US 6545162	
		US 6555692	US 6635417	US 6660255	
		US 6683189	WO 1997030975	WO 1998035242	
		WO 1998035702	WO 1998037066	WO 1998037067	
		WO 1998037087	WO 1998045284	WO 1998050058	
		WO 1998050582			
WO 2003041128		CA 2465886	EP 1451856	US 2003109448	
US 4942227		US 4529401	US 4665184		
WO 1999062551	AU 42321/99	CA 2334809	EP 1082138		
	NO 20006155	US 6207660			
WO 2003020877	NIL				
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.					
END OF ANNEX					